

ANNUAL REPORT 1963  
COOK INLET AREA  
COMMERCIAL FISHERIES DIVISION  
ALASKA DEPARTMENT OF FISH AND GAME

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## INTRODUCTION

The year 1963 was a poor salmon year, but a record king crab and Dungeness crab season for Cook Inlet.

More was accomplished during this year than in any previous year insofar as progress in management research for Cook Inlet. Much of the credit for this work can go to Allen S. Davis, who joined the Cook Inlet staff early in the year, coming to the Department from the Fisheries Research Institute.

A program of pink salmon research was inaugurated, and during the spring important pink streams of the Outer and Southern Districts were sampled by the normal procedures followed in the fry digging work elsewhere in Alaska. During the fall a gravel shift study was started, and painted indicators (ping-pong balls) were buried at various levels in gravel of the study streams.

An intensive summer spawning study was started on Humpy Creek in Kachemak Bay, with a number of pertinent questions in mind. One of the most important is that of attempting to develop a method of determining the total numbers of pink salmon that spawn in a stream from estimates made in aerial surveys.

A continuing study of red salmon scales, with the immediate goal of determining racial differences through scale characteristics, has shown a great deal of promise. Eventually it is hoped that information collected from this study will be of value in making forecasts of Cook Inlet red salmon runs.

A Dungeness crab tagging program has been started, with the hope of learning the source of commercial crab that are taken in Kachemak Bay. A continuing program of measuring size of king crabs as they are landed will provide valuable management data over the years, indicating trends in fishing pressure, and giving some idea of the condition of crab stocks.

A red salmon smolt migration study, of a preliminary nature, is contemplated.

In addition more management data has become available during the salmon run through a more extensive test fishing program. More work has been done on king salmon population levels, and even further work is planned.

The petroleum industry continued to claim much attention of the Cook Inlet staff. Seismic permits, and monitoring of offshore seismic operations has been and is now an annual affair. A flaming gas well blowout on the Middle Ground Shoal that burned for nearly a year, was extinguished in 1963, with no known damage having been caused to the Inlet's fisheries from it.

A return of good size was realized at the Fritz Creek rehabilitation project: adults transplanted there in 1961 spawned successfully enough so as to bring a return of 185 spawners back.

The long battle on the declining king salmon runs of the Inlet appeared to be settled by the Board of Fish and Game at their December meeting, when the Board ruled a complete commercial and sports fishing closure on kings for all of Cook Inlet. Commercial fishermen catching kings are not allowed to sell them. Salmon season for the Inlet opens June 25.



# COMMERCIAL FISHING LICENSE SALES - COOK INLET - 1963

	<u>Resident</u>	<u>Non-resident</u>	<u>Total</u>
Commercial Fishermen	1,646	431	2,077
Beach Seine	5		5
Beam Trawl	1		1
Clam Digger	10		10
Drift Gill Net	333	139	472
Hand Purse Seine	102	10	112
Long Line	53	6	59
Otter Trawl	4	2	6
Set Gill Net*	621	34	655
Shellfish Pots	80	5	85
Troll	13		13
Tenders	12	15	27
Vessels	405	162	567
Dories	558	26	584

Value of licenses sold at the Homer office in 1963, \$54,992.50.

\*Does not include ten (10) set gill net licenses issued for herring and fresh water species.

<u>Name and Business Address</u>	<u>Superintendent</u>	<u>Plant Location</u>	<u>No. of Lines</u>	<u>Product</u>
Alaska Fish & Farm Products, Inc. Box 74 Anchorage, Alaska	K. C. Britt	Anchorage		Salmon - Fresh, Frozen Halibut - Fresh, Frozen
Alaska Sea Food Co. Box 216 Seward, Alaska	Ray F. James	Seward		Buy & Sell Fresh Fish
Alaska Star, Inc. 1206 West 29th Place Spenard, Alaska	Walter B. Swanson	Beluga River	Hand Pack	Salmon - Canned
Alaskan Sea Foods Box 152 Homer, Alaska	Eugene V. Browning	Homer Spit		King Crab - Fresh, Frozen
Alaskan Smokey Joe's, Inc. Box 1381 Anchorage, Alaska	William E. McBride	Seward Hwy., Mi. 7		Salmon - Smoked
Alcan Fisheries North Star Route Kenai, Alaska	C. E. Gage	North Kenai		Buy & Sell Fresh Fish
Alidas Alaskan Gifts Box 62 Anchor Point, Alaska	Ray Charlton	Anchor Point	1 (1/2# Flats)	Salmon - Frozen, Mildcured Halibut - Frozen, Canned, Smoked
Berman Packing Co. 6738-24th Avenue N.W. Seattle, Washington	O. R. Bertosen	Ninilchik	1 (1# Talls) 1 (1/2# Flats)	Salmon - Canned, Frozen
Columbia-Wards Fisheries P. O. Box 30 University Station Seattle 5, Washington	A. R. Pearnain	Kenai	1 (1# Talls) 1 (1/2# Flats)	Salmon - Canned
Ekren Packing Co. Kasitsna Bay, Alaska	John A. Ekren	Kasitsna Bay	1 (1/2# Flats)	Dungeness Crab - Canned Salmon - Smoked

<u>Name and Business Address</u>	<u>Superintendent</u>	<u>Plant Location</u>	<u>No. of Lines</u>	<u>Product</u>
Emard Packing Co., Inc. 611 Lowman Building Seattle 4, Washington	S. T. Olson	Anchorage	1 (1# Talls)	Salmon - Canned, Frozen
Garrouette, James A. P. O. Box 173 Ninilchik, Alaska	James A. Garrouette	Ninilchik		Salmon - Smoked
Goresen, Martin L. P. O. Box 1436 Seward, Alaska	Martin L. Goresen	Seward		Buy & Sell Fresh Fish
Halibut Producers Cooperative Box 796 Seward, Alaska	Terrell Schenk	Seward	1 (4 1/2 oz. Flats)	Salmon - Frozen Shrimp - Frozen King Crab - Frozen
Harrington's Fish Shack Anchor Point, Alaska	Vern Harrington	Anchor Point	Hand Pack	Salmon - Canned, Smoked
Horton, Henry & Helen Box 1257 Seward, Alaska	Henry Horton	Seward	Hand Pack	Salmon - Canned, Smoked, Fresh
Iliamna Fish Producers Assoc. Box 458 Kenai, Alaska	Leo T. Oberts	Cook Inlet Iliamna Lake Drainage		Salmon - Frozen Fresh Water Fish - Fresh, Frozen
Jensen, Torvald Box 123 Ninilchik, Alaska	Torvald Jensen	Deep Creek		Salmon - Fresh, Frozen
Johnson, W. P., Jr. 1732-12th Avenue Anchorage, Alaska	W. P. Johnson, Jr.	Beach from Kasilof to Swanson River		Salmon - Fresh, Frozen, Mildcured
Kenai Packers 1455 N. Northlake Place Seattle, Washington	Fred M. McGill	Kenai	1 (1# Talls)	Salmon - Canned

<u>Name and Business Address</u>	<u>Superintendent</u>	<u>Plant Location</u>	<u>No. of Lines</u>	<u>Product</u>
New Nelco, Inc. 527 Finch Building Aberdeen, Washington	Samuel Manuel	Halibut Cove	Freezer Ship	Dungeness Crab - Frozen, Cold Pack King Crab - Frozen, Cold Pack
Pacific Alaskan Seafoods Box 487 Homer, Alaska	Lee T. Shelford	Homer Spit		Dungeness Crab - Fresh, Frozen King Crab - Fresh, Frozen Halibut - Fresh, Frozen
Polar Packing Co. Box 678 Homer, Alaska	Dick Haltiner	Homer Spit	Hand Pack	Salmon - Canned King Crab - Canned Halibut - Canned
R - Lee Company Route 2 Soldatna, Alaska	R. L. Schmidt	Kalifonsky Beach		Salmon - Hard Salt, Smoked
Tee Pee Cold Storage Star Route Kenai, Alaska	Bill Roark	7 mi. north of Kenai		Salmon - Fresh, Frozen
Seldovia-Port Graham Consol. 2360 Commodore Way Seattle 99, Washington	J. J. Lind	Seldovia	1 (1# Talls) 1 (1/2# Flats)	Salmon - Canned Salmon Eggs - Salted King Crab - Canned
Simon, Charles L., Sr. Route 2 Kasilof, Alaska	Charles L. Simon, Sr.	Kalifonski Beach Rd.	Hand Pack	Salmon - Canned, Smoked
Snug Harbor Packing Co. 204 Administration Building Fishermen's Terminal Seattle 99, Washington	J. R. Fribrock	Snug Harbor	1 (1# Talls) 1 (1# Flats)	Salmon - Canned
Sportsman Cannery & Smokehouse Clam Gulch, Alaska	Harold W. Duley	Mile 124 1/2 Sterling Hwy.		Salmon - Smoked

<u>Name and Business Address</u>	<u>Superintendent</u>	<u>Plant Location</u>	<u>No. of Lines</u>	<u>Product</u>
Strutz, Donald C. Box 192 Seward, Alaska	Donald C. Strutz	Anchorage		Buy & Sell Fresh Fish
Sutterlin & Wendt 701 Central Building Seattle, Washington	Richard H. Sutterlin	Seldovia	1 (4 1/2 oz. Flats)	Shrimp - Canned Dungeness Crab - Brine, Frozen
Tidewater Packing Co. P. O. Box 1842 Anchorage, Alaska	Ray Coffin	Anchorage	1 (1/2# Flats)	Salmon - Fresh Canned, Smoked Canned
Treat, O. E. Box 93 Kasilof, Alaska	O. E. Treat	Anchorage		Buy & Sell Fresh Fish
Wakefield Fisheries Seldovia, Alaska	Charles S. Hendrix	Seldovia		King Crab - Frozen
Woods, Richard 3303 Iowa Drive Spenard, Alaska	Richard Woods	Anchorage		Buy & Sell Fresh Fish

COOK INLET PACK BY WEEK - 1963

BERMAN PACKING COMPANY

<u>Week Ending</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
June 30		67		10		77
July 7		1,151		30		1,181
July 14		587	6	27		620
July 21		805	43	27		875
July 28		285	66	5		356
August 4		105	228	3	17	353
August 11		10	96		21.5	321
August 18		10	125	1		136
August 25		14	642		10	666
September 1		2.5	570		16	588.5
September 8		2	273		10	285
September 15		<u>.5</u>	<u>294</u>	<u>—</u>	<u>2.5</u>	<u>297</u>
Total		3,039	2,343	103	270.5	5,755.5
Cannery Annual Report		3,222.5	2,430.5	111	236	6,000

COOK INLET PACK BY WEEK - 1963

COLUMBIA-WARDS FISHERIES

<u>Week Ending</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
June 9	25	121				146
June 16	48	364				412
June 23	16	105		20		141
June 30		155		25		180
July 7		1,240	23	10	463	1,736
July 14	41	5,790	157	66	1,495	7,539
July 21	44	4,918	490	44	1,563	7,059
July 28	33	1,950	544	10	2,034	4,571
August 4	<u>78</u>	<u>426</u>	<u>430</u>	<u>3</u>	<u>178</u>	<u>1,115</u>
Total	285	15,069	1,644	178	5,733	22,909
Cannery Annual Report	297	15,151.5	1,832	180.5	6,006	23,467

COOK INLET PACK BY WEEK - 1963

EMARD PACKING COMPANY

<u>Week Ending</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
June 8	663	49				712
June 16	992	75		2		1,069
June 23	668	19		16		703
June 30	1,881	42	2	32	1	1,958
July 7	1,036	454	57	88	6	1,641
July 14	598	556	183	59	76	1,472
July 21	33	4,524	1,691	97	657	7,002
July 28		835	2,102	33	1,879	4,849
August 4		67	927	6	1,054	2,054
August 11		14	956		210	1,180
August 18	<u>      </u>	<u>5</u>	<u>991</u>	<u>      </u>	<u>63</u>	<u>1,110</u>
Total	5,871	6,640	6,909	333	3,946	23,699
Cannery Annual Report	5,827	6,565	6,976	325	3,936	23,629



COOK INLET PACK BY WEEK - 1963

HALIBUT PRODUCERS COOPERATIVE

(Fish in Pounds)

<u>Week Ending</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
June 23	8,264					8,264
July 7	3,065	3,599	367	67	72	7,170
July 14	18,632	3,167	7,853	331	183	30,166
July 21	13,269	1,683	28,508	2,461	4,464	50,385
July 28	22,635	3,064	95,323	3,177	290	124,489
August 4	8,772	892	131,997	1,136	72	142,869
August 11	2,491		195,785	432	91	198,799
August 17	2,014	2,299	125,171	162	43	129,689
August 25	240	893	38,985			40,118
September 1	33	187	14,623			14,843
September 8	<u>80</u>	<u>213</u>	<u>5,858</u>	<u>      </u>	<u>      </u>	<u>5,951</u>
Total	79,335	15,997	644,470	7,766	5,215	722,783
Cannery Annual Report	67,229	11,578	605,590	6,573	4,778	695,178

COOK INLET PACK BY WEEK - 1963

KENAI PACKERS

<u>Week Ending</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
June 16	535.5	688.5				1,224
June 22	459	306				765
June 30		331.5		72		403.5
July 7	51	2,422.5	88	77	919	3,557.5
July 14	76.5	8,458	319	108	1,888	10,649.5
July 21	102	10,075.5	1,219	39	2,323	13,758.5
July 28	204	3,228.5	1,729	32	4,281	9,474.5
August 4	221.5	1,189	703	3	241	2,357.5
August 11	<u>107</u>	<u>533</u>	<u>1,042</u>	<u>3</u>	<u>49</u>	<u>2,734</u>
Total	1,756.5	27,232.5	5,100	334	9,701	44,824
Cannery Annual Report	1,756.5	27,256	5,357	334	9,701	44,404

COOK INLET PACK BY WEEK - 1963

SELDOVIA-PORT GRAHAM CONSOLIDATION

<u>Week Ending</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
June 9		11			1	12
June 16		64			68	132
June 23		86		4	101	191
June 30		121		49	103	273
July 7	1	866	22	404	553	1,846
July 14	7	4,787	152	438	6,300	11,684
July 21	2	3,411	556	284	4,418	8,671
July 28	5	804	362	708	2,214	4,093
August 4		17	80	2,367	577	3,041
August 11		6	80	2,297	288	2,671
August 18	<u>—</u>	<u>1</u>	<u>59</u>	<u>1,828</u>	<u>834</u>	<u>2,722</u>
Total	15	10,174	1,311	8,379	15,457	35,136
Cannery Annual Report	10	10,176	1,315.5	8,379.5	15,461	35,132

COOK INLET PACK BY WEEK - 1963

SNUG HARBOR PACKING COMPANY

<u>Week Ending</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
June 16	84	73				157
June 23	25	146			4	175
June 30	11	310	3	86	78	488
July 7	19	1,532	53	245	681	2,530
July 14	1	5,512	244	107	2,746	8,610
July 21	7	2,842	637	390	2,444	6,320
July 28	1	1,066	803	448	2,545	4,863
August 4	6	100	468	2,175	1,437	4,186
August 11	<u>1</u>	<u>30.5</u>	<u>391.5</u>	<u>653.5</u>	<u>758.5</u>	<u>1,835</u>
Total	155	11,611.5	2,599.5	4,104.5	10,693.5	29,164
Cannery Annual Report	157	11,615	2,599	4,110	10,694	29,175

COOK INLET PACK BY WEEK - 1963

TIDEWATER PACKING COMPANY

<u>Week Ending</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
September 24			210		20	230
Cannery Annual Report	42	383.5	256	69.5	97	848

# 1963 SALMON PACK BY COMPANIES

(Data - Annual Report of Companies)

<u>Company Name</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
Berman Packing Co.		3,222.5	2,430.5	111	286	6,050
Columbia-Wards Fisheries	297	15,151.5	1,832	180.5	6,006	23,467
Emard Packing Co.	5,827	6,565	6,976	325	3,936	23,629
Kenai Packers	1,756.5	27,256	5,357	334	9,701	44,404.5
Seldovia-Port Graham Consol.	10	10,176	1,315.5	8,379.5	15,461	35,342
Snug Harbor Packing Co.	157	11,615	2,599	4,110	10,694	29,175
Tidewater Packing Co.			210		20	230
Total	8,047.5	73,986	20,720	13,440	46,104	162,297.5

# FREEZER FISH

(Individual Fish)

<u>Company Name</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
Halibut Producers Cooperative	973	2,799	9,232	407	541	13,952
Emard Packing Company	<u>2,099</u>	_____	_____	_____	_____	<u>2,099</u>
Total	3,072	2,799	9,232	407	541	16,051

# FREEZER FISH IN FISH ONLY

## Halibut Producers Cooperative

<u>Week Ending</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
June 17	281					281
June 23	66					66
July 7	12	688		20		720
July 14	104	656				760
July 21	210	204	6	212	537	1,169
July 28	198	398	24	175	1	796
August 4	82	126	125			333
August 17	17	472	1,500		3	1,992
August 25	3	157	3,173			3,333
September 1		47	1,321			1,368
September 8		51	693			744
September 22	—	—	<u>2,390</u>	—	—	<u>2,390</u>
Total	973	2,799	9,232	407	541	13,952

## Emard Packing Company

June 8	912					912
June 16	492					492
June 23	<u>695</u>					<u>695</u>
Total	2,099					2,099



# SMOKING OPERATIONS

(In Cases)

<u>Company Name</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
Alaska Star, Inc.					3	3
Tidewater Packing Co.		72				72
Harrington's Fish Shack		—	<u>11</u>		<u>6</u>	<u>17</u>
Total		72	11		9	92

(In Pounds)

Alaskan Smokey Joe's	1,500	260	2,500			4,260
Alidas Alaskan Gifts	110		420			530
James A. Garrouette	55	9	65	8		137
Torvald Jensen	—	—	—	—	<u>1,908</u>	<u>1,908</u>
Total	1,665	269	2,985	8	1,908	6,835

SALMON CATCH BY STATISTICAL AREA AND GEAR - 1963

<u>Area</u>	<u>Gear</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>
231	Hand Purse Seine		1	2,250	11	
232	Hand Purse Seine		1,002	3	265	1,492
241	Hand Purse Seine	79	4,783	3,702	98,339	6,853
241	Set Gill Net	9	8,359	318	1,490	842
242	Hand Purse Seine	6	972	364	21,197	115,431
243	Hand Purse Seine		1	2	16,341	177
244	Drift Gill Net	259	417,984	44,210	3,526	257,298
244	Set Gill Net	7,017	223,661	40,308	11,322	228
245	Hand Purse Seine	3	6	1,952	3,608	11,022
245	Drift Gill Net	195	95,596	7,150	679	45,498
245	Set Gill Net	1,617	38,138	26,954	1,626	23,952
246	Drift Gill Net	10	14,970	528	51	3,849
246	Set Gill Net	1,090	43,115	12,498	684	1,866
247	Set Gill Net	7,345	109,463	63,540	8,940	43,694
248	Hand Purse Seine	<u>1</u>	<u>3</u>	<u>95</u>	<u>65,973</u>	<u>13,715</u>
		17,631	958,054	203,874	234,052	525,537

TOTAL CUMULATIVE PACK COOK INLET - 1963

<u>Week Ending</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
June 16	2,347	1,445		2	69	3,863
June 23	3,516	2,107		42	174	5,838
June 30	5,407	3,134	5	316	356	9,218
July 7	6,514.5	10,799.5	248	1,170	2,978	21,710
July 14	7,238	36,489.5	1,309	1,975	15,483	62,494.5
July 21	7,426	63,065	5,945	2,856	26,888	106,180
July 28	7,669	71,233.5	11,551	4,092	39,841	134,386.5
August 4	7,974.5	73,137.5	14,387	8,649	43,345	147,493
August 11	8,082.5	73,731	16,952.5	11,602.5	44,865.5	155,234
August 18	8,082.5	73,747	18,128.5	13,431.5	45,766.5	159,156
August 25	8,082.5	74,016*	18,979.5	13,431.5	45,792.3	160,302
September 1	8,082.5	74,018.5	19,549.5	13,431.5	45,808.5	160,890.5
September 8	8,082.5	74,020.5	19,822.5	13,431.5	45,818.5	161,175.5
September 15	8,082.5	74,021	20,116.5	13,431.5	45,821	161,472.5

\*255 cases, pack to date (Tidewater Packing Company), not previously reported.

PRICES PAID AND FISH PER CASE, COOK INLET, BY CANNERY, 1960-1963

(Price in Parenthesis)

	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>
<u>Emard Packing Company</u>					
1960	3.5 (5.00)	13.0 (1.45)	13.5 (1.00)	23.0 (.47)	12.0 (.60)
1961	2.993 (5.00)	11.367 (1.45)	11.368 (1.00)	18.149 (.47)	11.12 (.60)
1962	3.25 (5.00)	11.9 (1.47)	13.6 (1.00)	24.5 (.48)	10.7 (.60)
1963	NO Record				
<u>Berman Packing Company</u>					
1960	NO Record				
1961					
1962					
1963		13.2 (1.47)	10.3 (1.00)	22.0 (.47)	11.1 (.60)
<u>Columbia-Wards Fisheries</u>					
1960	Did not operate				
1961	3.68 (5.00)	11.86 (1.45)	9.56 (1.00)	18.98 (.47)	11.16 (.60)
1962	4.77 (5.00)	13.33 (1.47)	10.57 (1.00)	20.98 (.51)	9.71 (.60)
1963	4.63 (5.00)	13.30 (1.47)	9.36 (1.00)	24.12	10.38 (.62)
<u>Kenai Packers</u>					
1960	3.52 (5.00)	15.65 (1.45)	26.67 (1.00)	13.07 (.47)	11.52 (.60)
1961	3.515 (5.00)	12.390 (1.45)	12.083 (1.00)	24.876 (.47)	10.576 (.60)
1962	3.1 (5.00)	13.6 (1.47)	9.17 (1.00)	22.457 (.51)	8.76 (.60)
1963	3.63 (5.00)	13.04 (1.47)	10.43 (1.00)	28.75 (.48)	10.37 (.62)
<u>Seldovia-Port Graham Consolidation</u>					
1960	(5.00)	13.42 (1.42)	11.03 (1.00)	25.16 (.45)	11.38 (.60)
1961		11.61 (1.45)	11.74 (1.00)	17.42 (.47)	10.57 (.60)
1962	4.69 (5.00)	12.4 (1.45)	12.73 (1.00)	26.82 (.47)	10.42 (.60)
1963		12.093 (1.47)	10.513 (1.00)	24.156 (.44)	10.558 (.62)
<u>Snug Harbor Packing Company</u>					
1960					
1961					
1962		12.08 (1.45)	11.50 (1.00)	24.21 (.47)	9.61 (.60)
1963	(5.00)	12.86 (1.45)	10.25 (1.00)	23.56 (.44)	56 (.62)

## SHELLFISH

### King Crab:

During 1963 approximately 982,631 king crab weighing 8,382,734 pounds were landed from Cook Inlet. By far the bulk of these came from the Kamishak Bay District (652,335 crab totalling 5,720,920 pounds). Kachemak Bay, which a few years ago produced all of Cook Inlet's king crab, produced but 313,433 crab weighing 2,487,981 pounds. The Outer District produced 16,950 crab weighing 171,285 pounds.

The total poundage is the largest ever produced in Cook Inlet. Of interest is the fact that 1963 is the first year in which the seven inch legal size limit for male king crab went into effect--after a six and one-half inch size limit of many years.

The average weight of Kamishak Bay crab for the year was 8.77, the average weight for Kachemak Bay crab was 7.93, and the average for those taken in the Outer District was 10.1.

### King Crab Length Measuring Program:

During each of the summers of 1962 and 1963, temporary employee was stationed at Seldovia to measure a sample of the king crab catch. Measurement used is the carapace length and measuring was completed with either calipers or a modified salmon measuring machine.

The majority of the crab landed during this period of the year (June, July, and August) were caught in the Kamishak Bay area.

King crab taken in the commercial fishery in 1963 averaged smaller in size than those taken in 1962 (note figure). This lowering of the average size between the two years is to be expected since 1962 was the first year any appreciable amount of fishing effort was expended in the Kamishak Bay area.

Comparative measurements between crabs taken in Kachemak Bay in 1962 and 1963 for July, indicate a slight average increase in 1963.

### Dungeness Crab:

Kachemak Bay produced essentially all Dungeness crab in Cook Inlet. Total poundage landed was 1,677,204--a record catch.

### Dungeness Crab Tagging Program:

The Southern and Outer Districts of the Cook Inlet area contain commercial quantities of Dungeness crabs. Little fishing effort was expended in the area until 1962. Crab production in the waters off the states of Washington and

KING CRAB LENGTH - KACHEMAK BAY  
 LENGTH FREQUENCY PERCENTAGE IN 10 MM INCREMENTS

	SAMPLE SIZE		
	June	July	August
1962		1350	
1963		645	

40

30

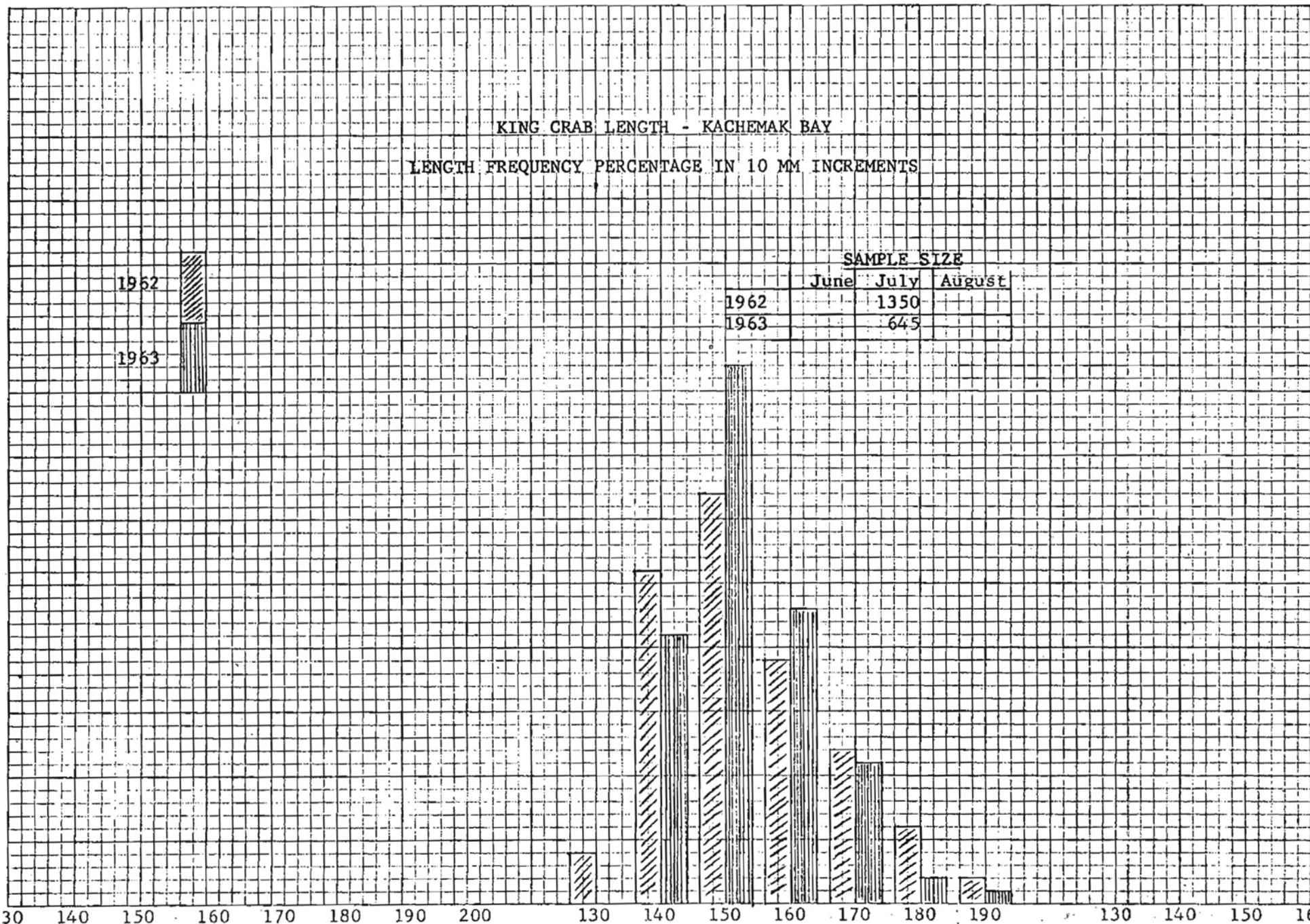
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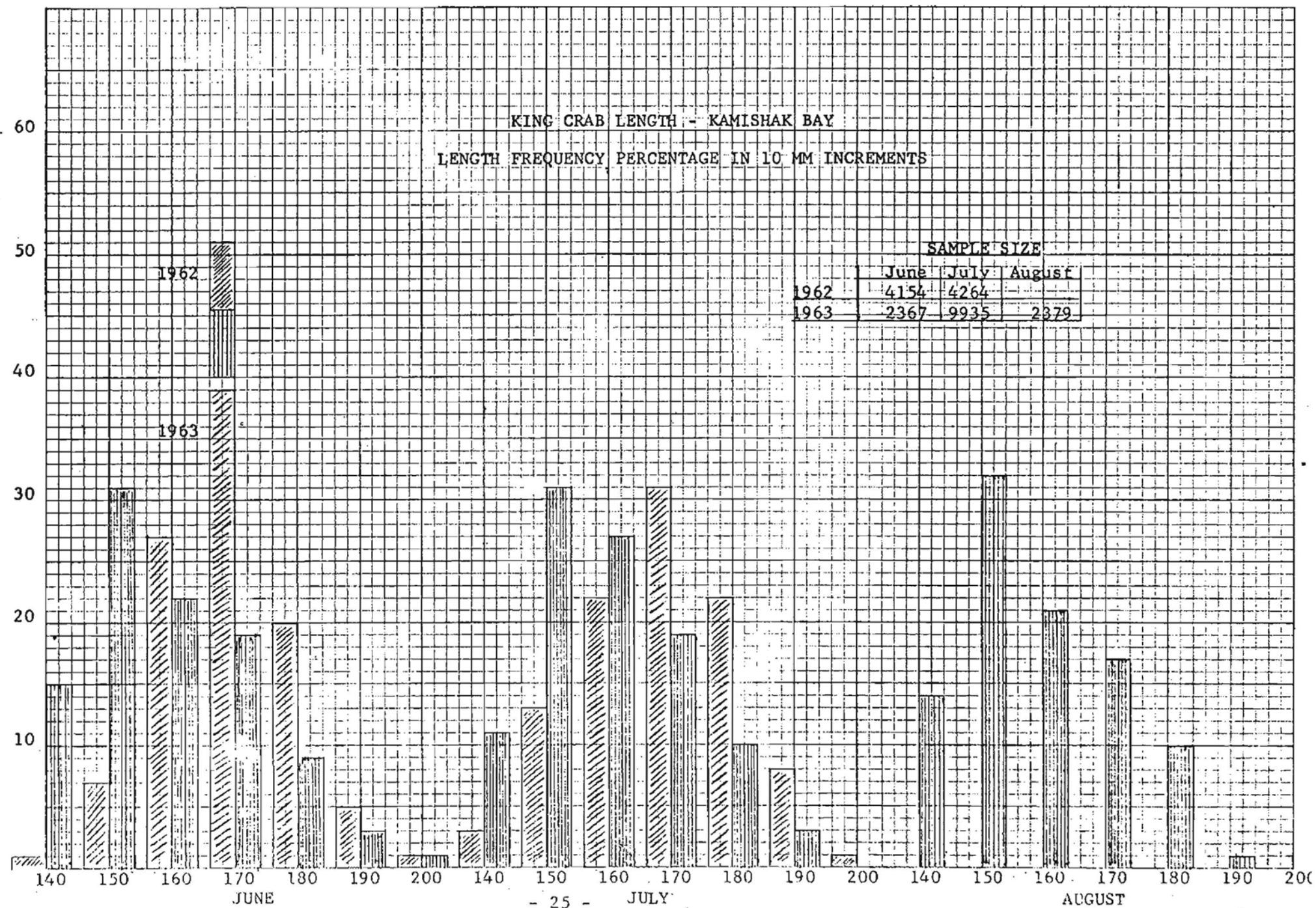
10

130 140 150 160 170 180 190 200 130 140 150 160

- 24 - JULY







Oregon was low, therefore, the market for Alaska caught Dungeness crab was strong.

Information concerning the migration habits of Dungeness crab in the commercial fishing areas is lacking. It has been suggested that crab move from the deeper waters into the shallower bays during the period commercial fishing is prevalent (April to October). A tagging program was initiated in the spring of 1963 to attempt to answer some of the questions.

Spaghetti type tags were attached to the splitting line of the posterior portion of the carapace.

From May 3, 1963 to July 27, 1963, 1,312 Dungeness crabs were tagged in the Southern District. Table lists the tag numbers, release areas, and release dates for the 1963 tagging.

Tag returns to date (161) indicate that little movement occurs among the crabs captured and released in the Kachemak Bay vicinity. It is still very possible that crabs from the deeper waters of Cook Inlet move inshore to the shallower bays during the months of the fishery. The present tagging program would not detect this movement.

#### Shrimp:

One shrimp plant operated at Seldovia, and a second operated at Seward. Most Cook Inlet shrimp came from Kachemak Bay. Altogether shrimp trawlers landed 1,897,580 pounds of shrimp from this area in 1963.



# DUNGENESS CRAB TAGGING DATA

	TAG NUMBERS	AREA RELEASED	DATE
1	00001-00013	Homer boat harbor	5/3/63
2	00014-00100	North side Homer spit from boat harbor to Nordine Bldg., 2½F, 200 yds. offshore	5/15/63
3	00101-00145	At the face of Homer dock on side facing boat harbor	5/15/63
4	00146-00231	McKeon Flats	5/23/63
5	00232-00345	Seldovia Bay, Dan's Lagoon	5/23/63
6	00346-00500	Seldovia Bay	6/29/63
7	00501-00584	Seldovia Bay	7/3/63
8	00585-00635	McKeon Flats	7/6/63
9	00679-00710	McKeon Flats	7/6/63
10	01081-01171	McKeon Flats	8/27/63
11	01240-01250	McKeon Flats	8/27/63
12	00636-00678	Mouth of China Poot	7/6/63
13	01172-01239	Mouth of China Poot	8/27/63
14	00711-00770	Sadie Cove	7/6/63
15	00771-00800	Barabara-Nubble Points	7/6/63
16	00946-01000	Barabara-Nubble Points	7/25/63
17	00801-00925	Port Graham Bay	7/20/63
18	00926-00945	Outside Beach (Seldovia)	7/25/63
19	01001-01080	Tutka Bay	7/27/63
20	01251-01312	Barabara-Nubble Points	8/27/63

## SALMON

### General:

The 1963 salmon season in Cook Inlet was poor, with only 161,100 cases packed: the average pack for the ten years previous to 1963 was 260,249 cases. Drift gear was up about 100 units over the previous year, and there were about 38 more set net licenses sold for the year: despite this increased fishing pressure, and the usual two day a week fishing period through July for the upper Inlet, the total catch was down.

### Above Anchor Point:

The critical districts for management of Cook Inlet include the Northern, North Central, and South Central, where normally about 80 per cent of the total numbers of salmon are harvested. Escapement data for these districts is extremely difficult to assess because of the silty streams. By the time stream surveys of the upper clear water spawning areas are made, it is too late to take action to control the fishery.

During the season the weekly catch of these three districts was compared with the weekly catch of former years: each cannery was required to report their catch at the end of each fishing period, and the totals were used as the basis of comparison. During 1963 the weekly catch was consistently lower than most former years, but it never dropped to the point where it was felt that further restrictions on the fishery were required.

Each year somewhat more management data becomes available for use during the season. In addition to the comparative catch table mentioned above, data on a daily basis were available from a second year test fishing program on the Kenai and Kasilof Rivers, a first year test fishing program on the Susitna River, from data obtained at the Lower Russian Lake counting tower (fourth year) and from the Fish Creek counting station that has been in use since the 1930's.

In addition, all cannery operators continually kept the Homer office of the Department informed of developments in the fishery, and tenders and fishing boats throughout the Inlet were contacted from time to time for information.

Customarily during fishing days, flights were made from Homer and Anchorage over the fishery, usually at or just following high tide. By following the shoreline it is possible to make a fair appraisal of the success of the set net fishery at this time: salmon can be seen on pick-up scows, they can be seen in the pick-up trucks on the beach, and in skiffs anchored offshore, and of course, they can be seen in the top mesh of fishing set nets.

### Catch by Gear, Entire Inlet:

Weather was generally good to marginal for the entire Cook Inlet area through the season. No extensions in fishing time were given due to weather.

The catch, by gear and percentage, was:

Type of Gear	No. Individual Salmon Caught	Percentage
Seine	369,649	19
Drift	891,891	46
Set Net	677,658	35

A 19 percent catch by seine gear is about normal: the catch by drift gear is somewhat above normal, and the set net catch is below the norm for the past several seasons.

Red salmon escapement, in general, appeared to be good. The count at Russian Lake was up from previous years, as was the count at Fish Creek. Aerial and ground surveys on the Kenai River and the Tustumena Lake spawning areas indicated good to excellent red salmon spawning populations.

#### The Seine Fishery:

The Outer District, a seining area for pinks and chums, had a very poor showing of salmon in 1963: it was so poor for pinks, that the area was opened briefly for chums, from July 6 (except for Windy Bay, Rocky Bay, and the east arm of Nuka Bay) to July 24. The area was not reopened.

The Eastern District, also primarily a seining area, normally opens about August 1st, depending on the presence of fish (the Outer, Eastern, and Kamishak Bay Districts are opened by field announcement). In 1963 the pink showing in the Eastern District was extremely weak, as it was in the Outer District. A report on August 7th, from the Sports Fish Division biologist at Seward, indicated there were no pinks or chums in Bear Creek as yet. In 1962 there was an escapement of about 5,000 pinks into Bear Creek. The sports fish harvest on this date in 1963 was about 50 percent below that of 1962, despite an increase in fishing effort of 30 percent. A foot survey of Tonsina Creek showed 780 chums, 91 dead chums, and no pinks.

On August 14, a report from the Sports Fish biologist at Seward indicated that the silver catch was one-half to two-thirds below 1962, and but four pinks had been recorded as having been taken by the sports fishery. Tonsina Creek had no pinks in it when checked by foot survey. No fish were coming through the weir at Bear Creek.

More pink salmon escapement was needed, so the season in the Eastern District was not opened until August 22, when pinks had stopped moving in the area. Some silvers were available for harvest in the district.

The Kamishak Bay District was managed on a somewhat different basis in 1963 than in former years. No extensive fishery has existed in this district for many years. Bad weather, uncharted waters, difficulty of getting tender service, and a lack of knowledge by fishermen of the area--plus good production in other areas

of the Inlet--all have contributed to this situation. In order to encourage fishermen to fish this district, an announcement was made early in the season that when it was opened, the Kamishak Bay District would be open on a seven day a week basis, and most stream markers would be removed.

On July 10, the southern two-thirds of the Kamishak Bay District was opened on this basis. Despite the fact that seine fishing was poor elsewhere in Cook Inlet, and in fact, the Outer District did not open for pink fishing, there was relatively light fishing pressure in Kamishak Bay.

On July 28, the area north of Ursus Head was opened, after a large school of pink salmon was seen in the Ursus Cove-Rocky Cove area. This attracted a few boats into the area, and finally, on August 2, the entire district was thrown open to fishing. Altogether 96,308 salmon (mostly pinks, about one-sixth chums) were taken in the Kamishak Bay District during the season, which was approximately 26 percent of the total seine catch for 1963.

#### The Set Net Fishery in the Northern District:

The Cook Inlet-Resurrection Bay area commercial salmon fishery has been managed from the Homer office since the state took over control in 1960. During the salmon season of 1963, a permanent biologist was assigned to the Anchorage office to work primarily with the set net fishery above the Forelands, the Northern District.

The set net fishery in this district is comprised of about 160 fishermen. The first open fishing period was on June 6. Fishing periods in this area amounted to two 24-hour periods a week. The fishing time was increased to five days a week on July 29, and finally, seven day fishing was allowed after August 16.

One 24-hour extension of a fishing period was made on August 3, in order to allow a heavier catch on a good showing of chum and silver salmon that was observed in the area between Granite Point and the Susitna River. This area had the lowest catches in the district during the year. As it turned out, the weather was too rough for fishing and the bulk of the fish passed through the fishery without being caught.

During the open fishing periods from June 10 to July 25, aerial surveys of the set net fishery were flown to determine the success of the fishermen, weather, and amount of fishing intensity. Table shows the number of nets and fish seen during the surveys. In some cases the weather was too rough for low level flying and the fish counts were impossible to make. It is possible to count the nets fishing from the higher altitudes. During the peak of the season which comes around the middle of July, the weather during fishing days was such that the majority of the fishermen could adequately tend their set nets. It was observed from the aerial flights and through discussions with the commercial fishermen, that set nets in the Northern District do not catch many fish unless a southwest wind is blowing. This is especially true along the north shoreline from

Mackenzie Point to the Kustutan River. In future aerial surveys of this nature, it would be beneficial to record the weather for the sections of shoreline surveyed. Winds from Turnagain Arm strongly affect the area from Granite Point to the Big Susitna River.

In order to determine the amount of fish passage during the closed fishing periods, test fishing stations were established at three locations in the upper Inlet. The first location was six miles from the mouth of the Big Susitna River, above the tidal influence. Another location was at the mouth of the Big Susitna on the eastern side. One of Carl Theile's sites was used for test fishing during the closed fishing periods. The third location was near the mouth of Chuit River on Matt Markanen's fishing site. This being the first year of the test fishing operations in the upper Inlet, species composition and timing of the runs at the various fishing locations was the information we were after. Definite peak catches were indicated by the test fishing.

The red salmon fishery in the upper Inlet appears to be on a close time schedule. The majority of fish pass through the fishery in about ten days: if weather and tidal conditions are not optimum, the fishermen do not catch the red salmon. It requires a moderate southwest wind coupled with high tides to force the fish onto the beaches where the set nets are located. During 1963, the peak of the red salmon passed the Chuit River test fishing site on July 10. This was on a Wednesday immediately following an open fishing period. The peak passed the Big Susitna mouth on July 18, which indicated that the majority of the fish were in the Inlet from the period July 10 to July 18. During this period there were two 24-hour fishing periods in which the fishermen should have harvested sizeable numbers of red salmon. Due to calm weather conditions, the bulk of the fish apparently stayed offshore and were not taken in the commercial set net fishery.

The red salmon peak passed the upstream fishing site on July 20 and 21, two days after the peak at the mouth of the river.

Aerial surveys of the fish escapement into the Northern District streams were attempted during the summer but weather conditions during 1963 were not conducive to aerial surveys. During much of the summer, cloudy, dark conditions prevailed over the Susitna Basin. The streams remained murky much of the summer and fish observations were not possible. Charter flying with commercial operators in Anchorage is difficult due to the fact that a plane is not always available on the few decent days that aerial surveying is possible. Weekends and holidays are out as far as flying and after hunting season begins, planes are not available, except for short flights.

#### Fall Silver Fishing:

As usual, when the canneries closed most fishermen left the fishing grounds. A few fishermen, however, evinced an interest in fishing for silver salmon into the fall season. For this reason all districts were opened, by field announcement, to seven day a week fishing, so that those few fishermen attempting to take silvers would have full opportunity to do so.

### King Salmon:

The king salmon run declined further in 1963 from the 1962 catch. Weather was good during the fishing days until at least late June, and each cannery contacted reported that the amount of gear fishing kings was about the same as in 1962.

For this reason, the staff will recommend to the Board of Fish and Game further curtailment of this badly depleted fishery.

### Subsistence Fishery for Salmon:

During 1963, 229 permits were issued to salmon subsistence fishermen in the Cook Inlet area. Of these, 216 reported their catch (report is mandatory). The total catch was:

<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Chums</u>	<u>Pinks</u>	<u>Other</u>
29	859	2,510	424	447	17 trout 454 flounder 2 sharks 200 whitefish 70 suckers 34 unknown

The Knik Arm catch of subsistence salmon in 1963 was:

<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Chums</u>	<u>Pinks</u>	<u>Other</u>
28	586	1,791	242	26	36

The native Village of Tyonek was allowed a special subsistence season in mid-May, as has been the case each year since 1960.

In 1962 Tyonek people reported taking 669 kings.

In 1963 Tyonek people reported taking 151 kings. The few taken in 1963 were due to villagers being too busy working for oil companies to fish.

### Fish Creek Counting Site:

The total salmon escapement into Fish Creek on Knik Arm was estimated by tower counts from the period July 3, 1963 to August 1, 1963. The final escapement figure was 119,024 red salmon and 1,814 silver salmon. One 15 minute count was taken every hour for a 12 hour period and then 16 hours passed before starting the next 12 hour sequence of counts. The actual count figure was multiplied by eight to project the total estimated escapement into the system.

The figure of approximately 119,000 red salmon is the largest run counted in this system since the State of Alaska took over control of the management of

1963 Inlet Aerial Surveys Above the Kustatan  
River and the East Forelands

<u>Date</u>	<u>Mackenzie Point- Susitna</u>		<u>Susitna- Kustatan</u>		<u>E. Foreland- Poss. Pt.</u>		<u>Fire Island</u>	
	Nets	Fish	Nets	Fish	Nets	Fish	Nets	Fish
June 27			69		110	120	5	184
July 1	8		105		167		8	288
July 4	14		81		151			246
July 8	25	3	180	51	170	300	13	388
July 11	21				139	1,126	18	
July 15	40	271			183	3,164		
July 18	68	1,361	159	5,621	204	2,141	33	1,726 464
July 22	55		139		126		31	19 351
July 25	36	70	135	1,641	143	1,606	17	103 331

Surveys were conducted approximately the same tide level on each date. This level was one hour before the high tide at Anchorage. "Nets" designates the actual number of nets observed in the water. "Fish" designates the number of fish observed in the nets, skiffs, scows, tenders, piled on the beach. All surveys were conducted in a Super-Cub on floats.

1963 Inlet Aerial Surveys Below the Forelands

Set Net Gear Counts, Individual Nets  
(Counts made at approximate high tide, 655 gear licenses sold)

East Side, South and North Central Districts

<u>Date</u>	<u>Ninilchik- Clam Gulch</u>	<u>Clam Gulch- Cape Kasilof</u>	<u>Kasilof River- Kenai River</u>	<u>Kenai River- E. Forelands</u>
June 27	139	93	79	66
June 28	139	93	79	66
July 1	139	93	79	66
July 4	255		69	77
July 18				108

West Side Cook Inlet

Harriet Point South through Chinitna Bay

July 1		102	
	<u>West Kalgin</u>	<u>East Kalgin</u>	<u>North Kalgin</u>
July 4	69	43	20

Drift Net Gear Counts  
(472 drift gear licenses sold)

July 4	150
July 8	261
July 18	375



the fishery in 1960. Figure on the following page shows the counts of red salmon for the years 1936 to 1963.

#### Russian River Counting Site:

Russian River is one of the largest clear water streams in the Kenai River drainage. It is presently the only location in the drainage where it is possible to obtain an escapement figure.

A counting tower has been maintained at the outlet to Lower Russian Lake since 1960. The 1963 estimate of 56,960 red salmon was the highest count since the beginning of the tower in 1960. The total escapement figure was estimated by the same method as used at Fish Creek (see above).

#### Test Fishing Programs:

During the 1963 field season, test fishing with gill nets was conducted on five locations in the Cook Inlet District.

The Kenai and Kasilof River test fishing programs were a continuation from 1962. The two Susitna River sites plus the site at the mouth of the Chuit River were all established in 1963.

#### Kenai-Kasilof Test Fishing:

The Kenai and Kasilof Rivers are the two major red salmon streams on the Kenai Peninsula. Both of these streams are glacial, therefore, estimating numbers of migrating salmon visually is impossible.

Test fishing with gill nets appears to be a partial solution to the problem of enumeration of the escapement. Actual numbers of migrating salmon are still unknown, but comparison figures from year to year appear to show trends. The catch is reported in numbers of fish per hour. For example, if four fish were caught in a 30 minute period, the catch figure for that particular tide or day would be eight fish per hour.

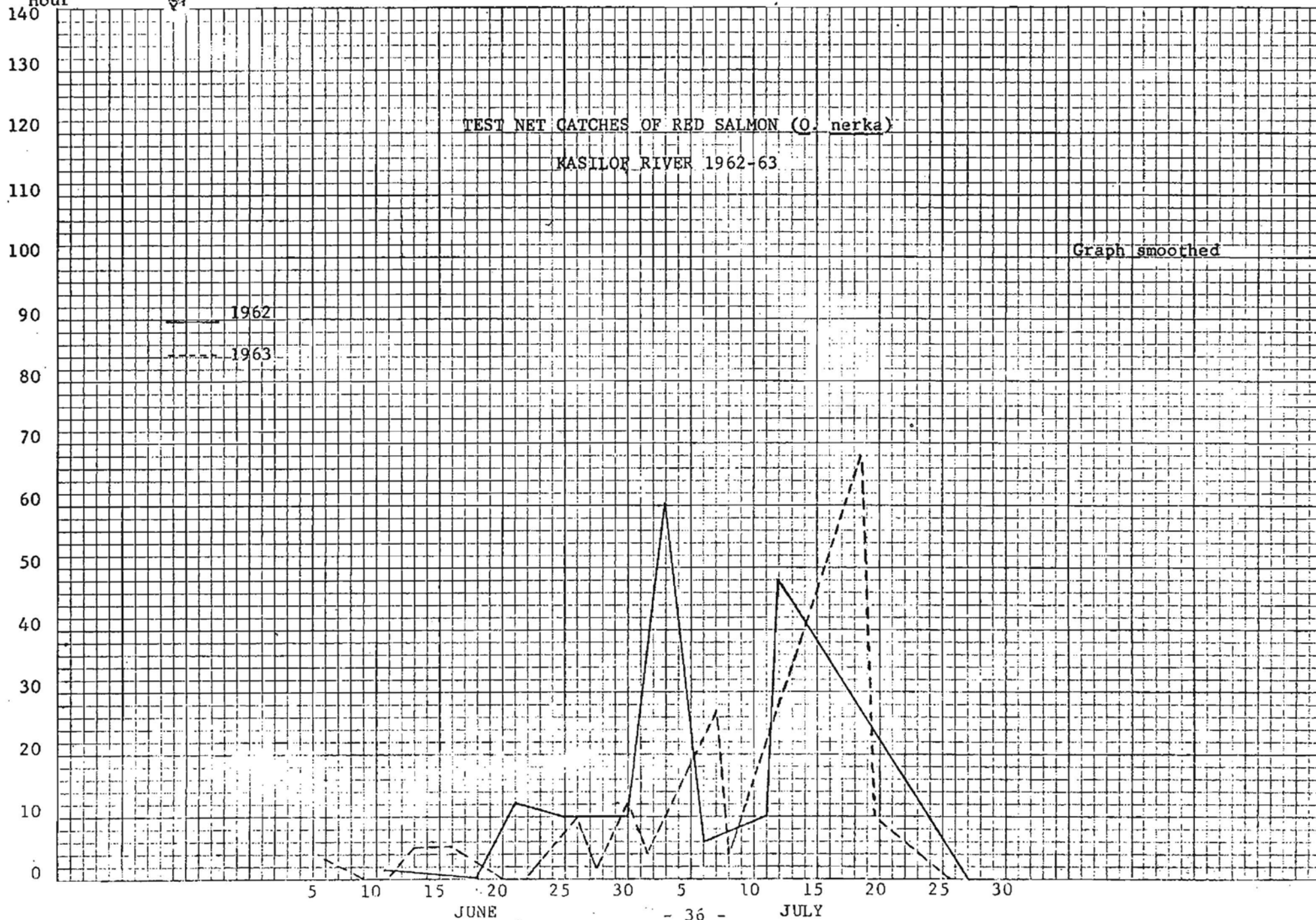
One gill net on each river was used. Each net was 72 feet in length and ten feet deep, with stretched mesh size of five and one-quarter inches.

The same fishing sites were used during 1962 and 1963. Each net was fished in a stationary manner when possible, held in place by a rope on shore and an anchor in midstream. Each net in the respective river was fished during the time that the current in the river moved upstream due to the flood tide. During small flood tides, when the tide would not reverse the river's current, the nets were drifted with the current.

It is interesting to note on the two graphs of the red salmon catch figures that definite peaks were reached on the two successive years in both rivers. On the Kenai River, peaks were reached earlier in 1963 than they were in 1962, and the reverse is true on the Kasilof River.

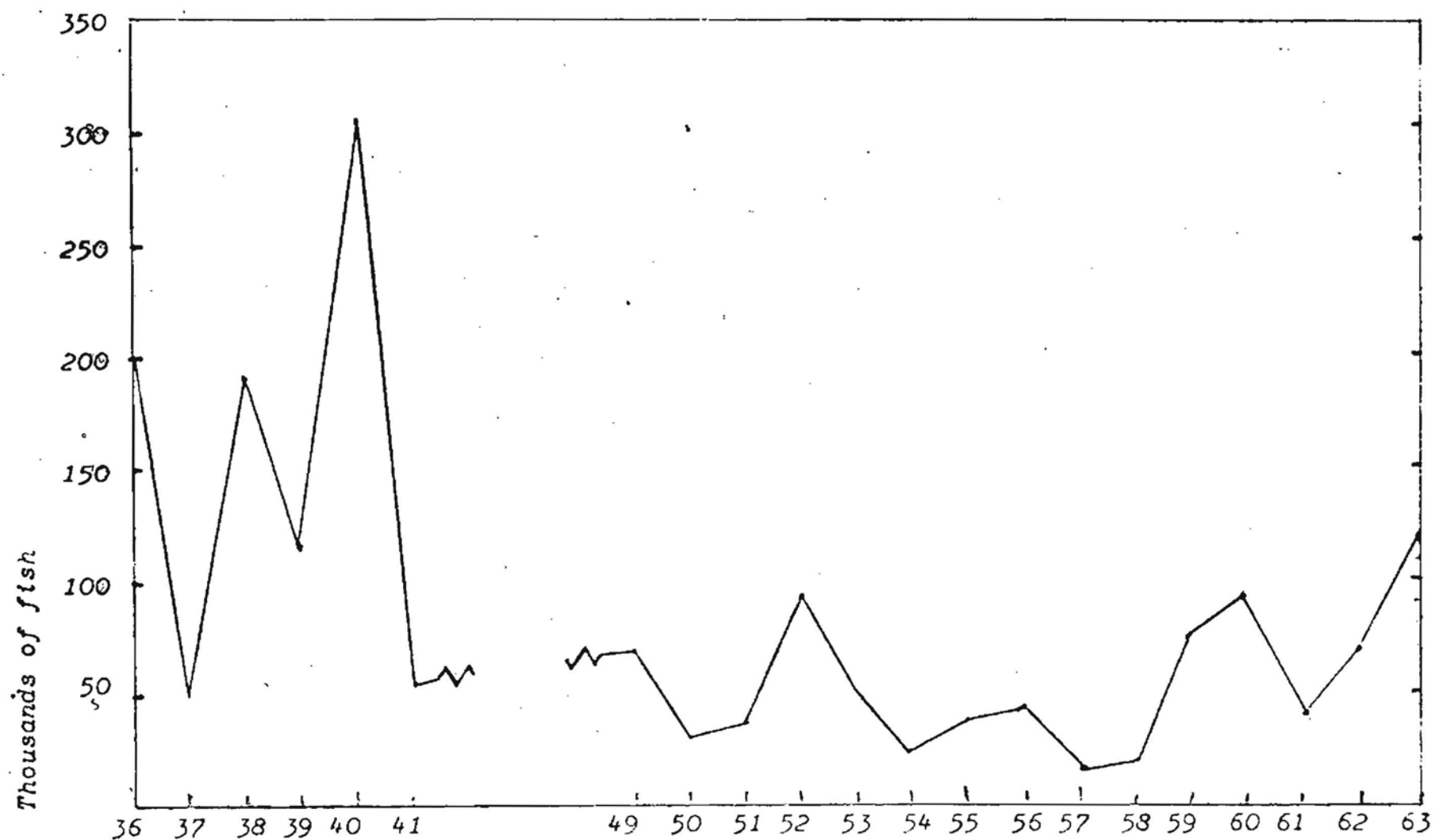
Fish Per  
Hour

12-280  
5780-10  
10 SQUARES TO THE INCH



*Fish Creek Red Salmon Counts\**

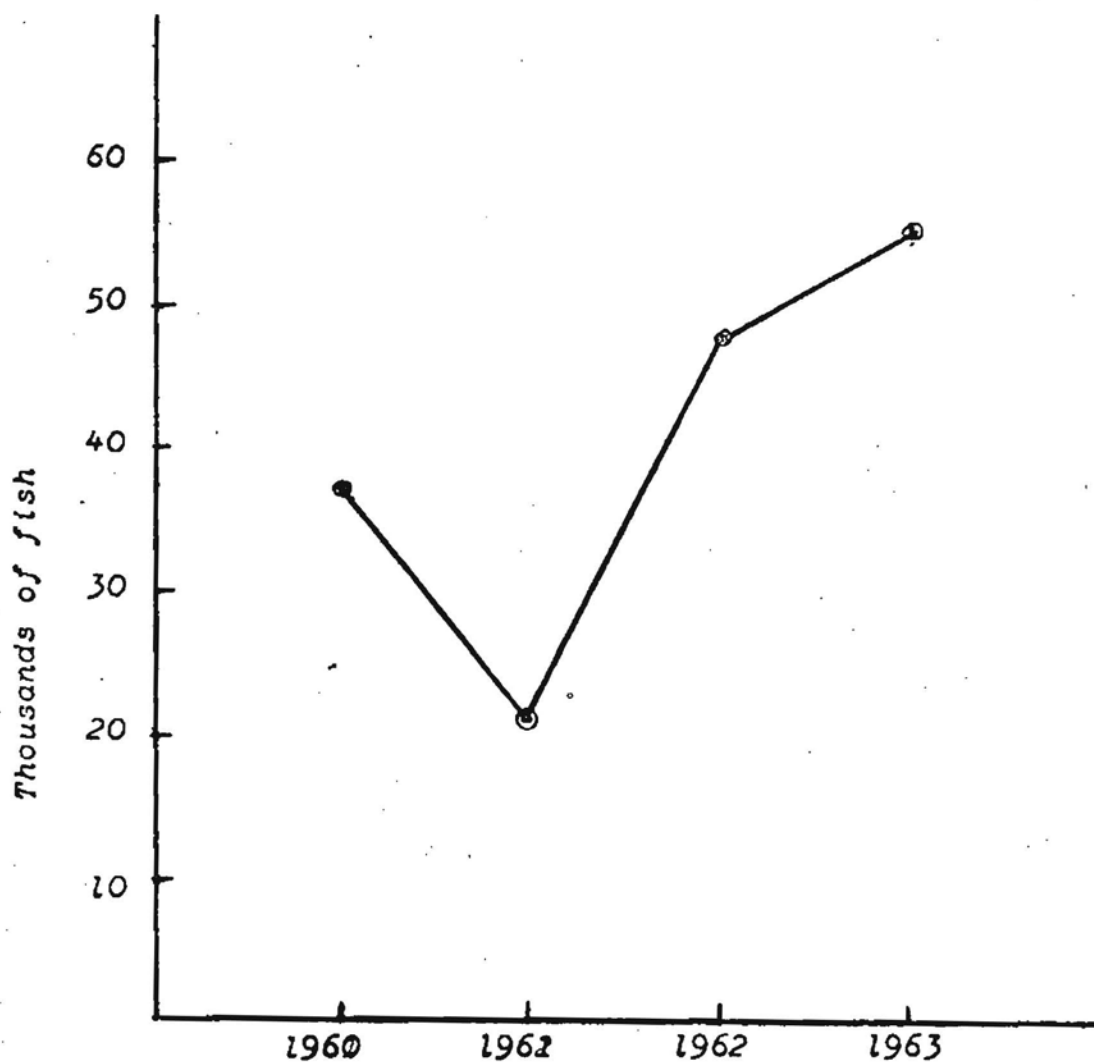
1936 - 1963



\*1936-1959 U.S. Fish and Wildlife Records

1960-1963 Alaska Dept. of Fish and Game

Russian River Red Salmon Counts  
1960 - 1963



### Beaver Dam Removal:

A two man crew spent most of the month of July working on beaver dam removal in the Susitna River Basin and Matanuska Valley. The senior member of this crew holds a blaster's certificate from the State of Alaska, which is required of personnel handling explosives. The following table lists the streams, number of dams, and dates of removal for the 1963 dam removal work.

#### Distribution of Dams and Date Removed:

<u>Location</u>	<u>By Dynamite</u>	<u>By Hand</u>	<u>Date</u>
Cottonwood Creek	1	1	7/2/63
Stephan Lake	11	---	7/5/63
Creek below Stephan Lake	3	---	7/8/63
Creek below Horseshoe Lake	---	3	7/11/63
Goose Bay	2	---	7/13/63
Creek between Lyn and Redshirt Lake	4	2	7/16/63
Fish Creek, Redshirt to Flathorn	---	4	7/17/63
Cottonwood Creek	---	2	7/25/63
Creek between Hourglass Lake and			7/28/63
Little Susitna River	3	2	7/29/63
Mallard Bay Creek (Humpty)	1	0	8/21/63

### Pink Salmon Egg and Fry Sampling:

Significant correlations have been established between the numbers of pink fry present in the gravel and the returning adults in some Southeastern and Prince William Sound streams. It has been possible to predict adult returns within reasonable confidence limits in these areas.

Portions of the Southern and Outer Districts of the Cook Inlet area are similar in topographic features to the Southeastern and Prince William Sound areas. Initial egg sampling in these districts was completed in March and April of 1963. Weather conditions prevented completion of sampling, but the results did indicate that pink salmon egg and fry sampling in the Cook Inlet area is possible.

The sampling technique was designed by the Fisheries Research Institute. The fry are forced out of the gravel by an air and water mixture coming out of a venturi nozzle with a portable water pump supplying the water pressure. Sampling is conducted in a circular two square foot screen. It has been calculated that approximately 90 percent of the fry present are forced to the gravel surface and caught in the screen.

The number of digs completed depends on the total available spawning area in the particular stream.

It is necessary to determine the available spawning area by transit surveying of the stream. It is then assumed that the number of eggs per square foot

in the sample digs is representative of the entire stream. By multiplying the two figures, the total number of fry produced in the stream is estimated.

The following was published in Informational Leaflet 36, "Forecast Research on 1964 Alaskan Pink Salmon Fisheries."

#### COOK INLET PINK SALMON FORECAST STUDIES

##### 1. Pre-Emergent Fry Sampling, 1963

In the spring of 1963, the first sampling of pre-emergent pink salmon fry was completed in Cook Inlet. The ten major pink salmon streams on the lower Kenai Peninsula were selected for the sampling (see Figure 11). Table 12 lists the streams, sampling dates, sample number, and average numbers of pink fry per square foot.

TABLE 12

#### COOK INLET AREA PINK SALMON PRE-EMERGENT FRY SAMPLING SPRING, 1963

No.	Stream	Date	Sample Points	Pink fry/sq. ft.
1	Humpy Creek	March 26	65	11.0
2	Tutka Lagoon Creek	April 4	13	13.0
3	Seldovia River	April 5	28	21.5
4	Port Graham River	April 13	45	26.0
8	Island Cr. (Port Dick)	April 19	30	10.5
10	Port Dick Creek	April 19	25	22.3

Densities of fry found in the sampled streams agreed closely with those reported for both the Prince William Sound and Kodiak area pink salmon streams. From these limited data, indications are that the pink salmon return to the sampled streams will be in the good to very good range.

##### 2. Catch and Escapement, 1962

The 1962 pink salmon catch and escapement was one of the best on record for the Cook Inlet area. Approximately 4,960,000 pink salmon were taken in the entire Cook Inlet area by commercial gear. Of this total, 2,004,065 were harvested from the region encompassed by the sampling program.

Both catch and escapement figures are listed in Table 13. Catch is listed by statistical area (Figure 11) and escapement is entered for

the stream or streams found in the particular statistical area. Escapement figures are peak aerial counts, therefore are conservative estimates of the total actual escapement.

# COOK INLET SOUTHERN PART

SCALE 1"=200,000

STATISTICAL AREA CHART

MODIFICATIONS 1961

Figure 11. Cook Inlet Statistical Areas and Pink Salmon Study Streams

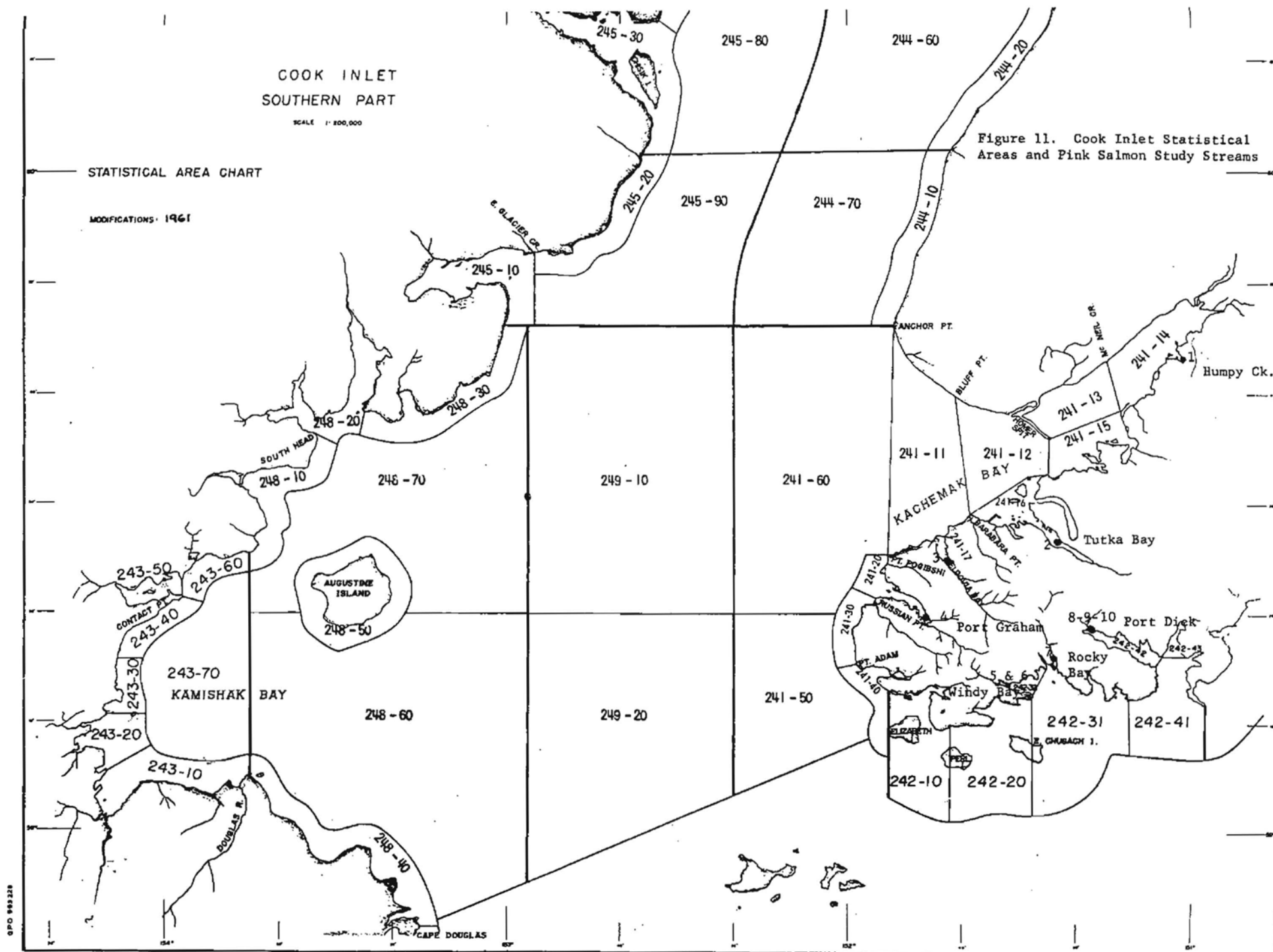




TABLE 13

1962 PINK SALMON CATCH AND ESCAPEMENT IN SOUTHERN COOK INLET  
 STATISTICAL AREAS (KACHEMAK BAY TO PORT DICK), 1962

Stat. Area	Stream	Catch	Peak Escapement
241-11		2,588	
241-12		11,693	
241-14		73,930	
241-15	Humpy Creek, China Poot	35,500	56,000
241-16	Tutka Bay Lagoon	257,161	30,000
241-17	Seldovia River	142,776	50,000
241-20	Port Graham River	10,415	50,000
241-30		7,729	
241-40		374	
242-10	Portlock	95,741	3,000
242-20		16,148	
242-31	Rocky Bay River	198,686	200,000
242-32	Windy Bay (2 streams)	63,209	25,000
242-41		22,962	
242-42	Port Dick (3 streams)	1,043,236	55,000
242-43		33,066	
TOTAL		2,004,065	469,000

### Cook Inlet Red Salmon Scales:

Through a cooperative effort of the Alaska Department of Fish and Game, Bureau of Commercial Fisheries, and Fisheries Research Institute, Cook Inlet red salmon scales have been sampled and partially analyzed for some years between 1952 and 1963. The immediate goal of the project is to determine racial differences through scale characteristics of the various races of red salmon entering the Cook Inlet fishery. Eventually, if and when escapement data on Cook Inlet red runs becomes available, forecast of run size may be possible from these data.

The scale analysis has been completed through the stage of determining the freshwater and ocean age of the sampled fish. The table below lists the percentages of the ocean age fish during the respective years. This percentage has been projected into the catch figures for the year to show the actual catch ratio of two-ocean to three-ocean red salmon. One of the main difficulties of this analysis is the lack of escapement information. Three of the four major red salmon producing systems in Cook Inlet are mainly glacial in nature thereby preventing escapement estimates.

Year	Percentage 2-Ocean	Percentage 3-Ocean	Catch 2-Ocean	Catch 3-Ocean	Total Catch
1952	27.9	71.6	421,815	1,082,507	1,511,881
1953	37.3	63.0	578,756	977,523	1,551,624
1954	19.6	80.2	243,514	996,418	1,242,416
1955	42.2	57.5	446,931	608,970	1,059,079
1956-1960	No scale data collected				
1961	20.0	80.0	237,016	948,063	1,185,079
1962	38.0	62.0	444,179	724,712	1,168,891
1963	47.8	52.2	457,492	499,605	957,098

### Fritz Creek:

Previous annual reports have detailed the history of Fritz Creek. Briefly, in 1961, 1962, and 1963 adult pinks were transplanted into Fritz Creek from China Poot, a nearby stream.

The first return of adults from a transplant occurred during 1963, when approximately 185 fish were netted and lifted over the temporary fence erected at the mouth of Fritz Creek. For a brief time in 1963 high water flattened this fence, and it is possible that other returning fish entered the stream while the fence was down.

In addition to the returning spawners (which resulted from a transplant of 2,000 fish in 1961), other fish were transplanted from China Poot as follows:

#### 1963

August 8 - 200  
August 10- 700  
August 18- 350  
August 19- 400  
1,650

A total of 1,835 fish, all potential spawners, were present in Fritz Creek from August 8 until about September 7. The bulk of the returns from the 1961 transplant arrived between August 15 and 25.

The aluminum fishway appeared to constitute somewhat of a block to the fish: most remained below it. The returning, bright fish did however appear to ascend the ladder and move well upstream.

#### Aurora Stream:

A small stream within two miles of Humpy Creek in upper Kachemak Bay at one time reportedly supported a run of pink salmon. A fox farmer in the vicinity is said to have killed the run off in getting fish for fox feed.

On August 21, 500 pinks were transplanted from Humpy Creek to Aurora Stream and retained there by a fence.

Later observation indicated that at least some of these fish spawned.

UNITED GEOPHYSICAL SEISMIC OPERATION OF 1963

By

Jerry Jacobi

From September 6 to November 26, 1963, the United Geophysical Corporation conducted a seismic reconnaissance program in Cook Inlet, Alaska.

Four vessels were used on this year's project. The "Alma," a 94-foot tender vessel from Ketchikan, served as the recording boat. The "Robert M," an 80-foot tender vessel from Port Bailey, was the shooting boat as well as the powder boat. She was loaded with 50 tons of Nitramon (Nitro-carbo-nitrate) at the first of the trip. The "Celtic," an 80-foot tender-crab boat from Seldovia, acted as the cable tail boat. A privately owned multiple use fishing vessel from Kodiak, "The Leading Lady," was the observation vessel.

Jerry Jacobi represented the Alaska Department of Fish and Game during this project.

It was the duty of the observer to do one of two things if excessive damage occurred to the marine resource: (1) Stop the operation in any one area and suggest moving to another area, or (2) Request that charges of a lesser size be used in the same area.

Fish killed and observed were: (1) The Pacific herring (Culpea pallasii) (2-8"), (2) Pacific tomcod (Microgadus proximus) (3-12"), and (3) Threespine stickleback (Gasterosteus aculeatus) (1 1/4").

The only excessive damage to the mentioned species was on October 5, when 5,820 herring were killed in the area north of Augustine Island. More than half of the total estimated fish killed during the operation were observed this day.

Because of the small number of fish killed, the Department gave permission to the seismic company on October 19, to shoot eight experimental 100 pound charges. On the occasions when the charge was changed from 50 to 100 pounds there was no visible difference in the number of fish killed. On November 15, the Department gave permission to increase the charge size to a maximum of 100 pounds.

Pacific herring were killed in most of the explored areas except in Turnagain Arm. This fish was found in the deeper waters of the Inlet as well as along the shore.

Pacific tomcod were turned up along with the herring on many occasions but they were not as numerous. The tomcod was the only species turned up in the turbid waters of Turnagain Arm. This fish was also abundant above Augustine Island.

This was the first year that the Threespine stickleback was observed. Because of its small size, the stickleback is easily overlooked. Middle Ground Shoal was the only area that sticklebacks were killed.

On several occasions seagulls were observed picking up fish. An estimate was made of the number of fish they appeared to take. Many times seagulls were

seen feeding around Fire Island but no fish were observed. This mystery was solved when several small shrimp were caught with a plankton net. It is assumed some shrimp were killed during shooting because seagulls were feeding in the shot points as well as in the surrounding water.

During the course of the operation, occasional misfires occurred that had to be sunk by the observer. It was necessary to puncture the supporting bag to allow the charge to sink to the bottom and render the explosive safe.

## FISHERMEN'S CORNER

KENI radio station in Anchorage once again carried the six day a week program "Fishermen's Corner" during the salmon season. This is the fourth year for the program.

Each program was taped, by a telephone call from Homer to the radio studio. Normally this was done about 8:00 p.m., and the program invariably was put on the air at 9:25 p.m.

Up-to-the-minute information on conditions throughout all districts, as available, was put on this program. All emergency announcements were given on the program.

This program appears to be an established part of the salmon management program for Cook Inlet, and will undoubtedly be continued each season.

